

GLAST Mission Definition Cycle



Science Objectives

- Resolve the isotropic diffuse background
- Correlative observations at other wavelengths (transients)
 - Search for high-energy spectral cutoffs
- Search for cosmic-ray acceleration in SNRs (e.g. separate pulsar, supernovae, and OB emission regions)
 - Test pulsar emission models
 - High-energy gamma-ray bursts
 - Unidentified EGRET sources

Capabilities

- Single photon ang. res. < 0.5° at 1 GeV
- Point source sensitivity: $2 \times 10^{-9} \text{ ph cm}^{-2} \text{ s}^{-1}$
 - Point source location: sub-arcminute
 - Wide field-of-view: 0.82 p sr acceptance
 - Effective area: 8,000 cm²
 - Energy range: 0.01 - 300 GeV
 - Dead time: < 1%

Requirements

- Residual cosmic-ray bkgd < few % of the high latitude diffuse gamma flux
 - All sky viewing
 - Minimize source confusion
 - Small error boxes for counterpart studies
 - Negligible dead time